Math
Grade 5

PLD	Standard	Minimally Proficient	Partially Proficient	Proficient	Highly Proficient
		The Minimally Proficient student	The Partially Proficient student	The Proficient student	The Highly Proficient student
Operations and Algebraic Thinking					
Detailed	5.OA.A [1 to 2]	Evaluates a simple numerical expression using parentheses, brackets, or braces (without nesting). Writes a numerical expression, using one operation, from a written statement.	Evaluates a numerical expression using parentheses, brackets, or braces (without nesting). Writes simple numerical expressions and interprets numerical expressions, without evaluating them.	Uses parentheses, brackets, or braces in numerical expressions (without nesting), and evaluates expressions with these symbols. Writes numerical expressions and interprets numerical expressions, without evaluating them.	Inserts parentheses, brackets, or braces (without nesting), in numerical expressions to make a statement true. Writes numerical expressions using multiple operations, involving real-world and mathematical contexts.
Detailed	5.OA.B [3]	Continues two numerical patterns (when given a table), using two given rules.	Continues two numerical patterns using two given rules.	Generates two numerical patterns using two given rules. Identifies apparent relationships between corresponding terms.	Generates two numerical patterns using two multi-step given rules, in mathematical contexts. Explains the relationship between corresponding terms.

Number and Operations in Base Ten					
Detailed	5.NBT.A [1 to 2]	Uses visual models or calculation to demonstrate a digit in one place of a whole number represents 10 times as much as it represents in the place to its right, or 1/10 of what it represents in the place to its left. Continues a given pattern that shows the number of zeroes of the product when multiplying a number by powers of 10.	Uses visual models or calculation to recognize that a digit in one place in a whole number represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. Recognizes patterns in the number of zeroes of products when multiplying a number by powers of 10. Uses whole number exponents greater than zero to denote powers of 10.	Recognizes (in any multi-digit number, including decimals to thousandths) that a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. Explains patterns in the number of zeroes of the product when multiplying a number by powers of 10, and explains patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Uses whole number exponents to denote powers of 10, including 10 to the power of zero.	Recognizes (in any multi-digit number, including decimals to thousandths) that a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left, in real-world or mathematical context problems. Interprets a multiplication problem to identify the factor of 10 by which one number is greater or lesser than another.
Detailed	5.NBT.A [3 to 4]	Reads decimals to the thousandths place. Compares two decimals to the tenths place, using >, =, and < symbols to record the results of comparisons. Uses place value understanding to round	Reads and writes decimals to the thousandths place, using base-ten numerals and number names. Compares two decimals to the hundredths place, using >, =, and < symbols to	Reads and writes decimals to the thousandths place, using base-ten numerals, number names, and expanded form (e.g., 347.392 = 3 X 100 + 4 X 10 + 7 X 1 + 3 X (1/10) + 9 X	Writes numbers in expanded form in a variety of formats (e.g., 347.392 = 7 X 1 + 3.4 X 100 + 3 X (1/10) + 2 X (1/1000) + (1/100) X 9). Compares and orders decimals to the thousandths place (with

		multi-digit numbers to the tenths place.	record the results of comparisons. Uses place value understanding to round multi-digit whole numbers to the hundredths place.	(1/100) + 2 X (1/1000). Compares two decimals to the thousandths place (with varying place values), using >, =, and < symbols to record the results of comparisons. Uses place value understanding to round multi-digit numbers up to any place (within content limits).	varying place values), from least to greatest or vice-versa. Uses rounding strategies in real-world situations.
Detailed	5.NBT.B [5 to 6]	Multiplies two two-digit numbers using a standard algorithm. Finds whole-number quotients of whole numbers (with up to two digit dividends and two-digit divisors), using rectangular arrays or area models.	Multiplies three-digit by two-digit whole numbers, using a standard algorithm. Finds whole-number quotients of whole numbers (with up to three digit dividends and two-digit divisors), using strategies based on place value and the properties of operations.	Fluently multiplies multi-digit whole numbers using a standard algorithm. Finds whole-number quotients of whole numbers (with up to four digit dividends and two-digit divisors), using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrates and explains the calculation by using equations, rectangular arrays, and/or area models.	Fluently multiplies multi-digit whole numbers, in real-world and mathematical contexts, using a standard algorithm. Finds whole-number quotients of whole numbers (with up to four digit dividends and two-digit divisors) in context.
Detailed	5.NBT.B [7]	Adds, subtracts, multiplies, and divides	Adds, subtracts, multiplies, and divides	Adds, subtracts, multiplies, and divides	Adds, subtracts, multiplies, and divides

		decimals to the tenths place, using concrete models, drawings, or strategies based on place value.	decimals to the hundredths place, using concrete models or drawings, strategies based on place value, and/or the relationship between addition and subtraction; relates the strategy to a written method.	decimals to the hundredths place, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relates the strategy to a written method and explains the reasoning used.	decimals to the hundredths place, using multiple strategies, in a real-world or mathematical context; relates the strategy to a written method and explains the reasoning used.

Number and Operations - Fractions					
Detailed	5.NF.A [1 to 2]	Adds/subtracts fractions with unlike denominators, where one denominator is a multiple of the other denominator, with the use of a visual model. Solves word problems involving addition and subtraction of fractions with unlike denominators, where one denominator is a multiple of the other denominator, using visual representations. Determines a common denominator, with use of a visual model.	Adds/subtracts fractions with unlike denominators, where one denominator is a multiple of the other denominator. Solves word problems involving addition and subtraction of fractions with unlike denominators, where one denominator is a multiple of the other denominator.	Adds and subtracts fractions with unlike denominators (including mixed numbers). Solves word problems involving addition and subtraction of fractions with unlike denominators (including mixed numbers). Assesses and justifies reasonableness of the answer by using benchmark fractions, visual models, or equations.	Adds or subtracts at least 3 or more fractions with unlike denominators (including mixed numbers). Solves word problems involving addition or subtraction with at least 3 or more fractions with unlike denominators (including mixed numbers).
Detailed	5.NF.B [3]	Rewrites a fraction as a division problem; uses manipulatives or visual models to solve problems involving division of whole numbers, leading to answers in the form of fractions or mixed numbers.	Solves word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers.	Interprets a fraction as division of the numerator by the denominator (a/b = a ÷ b); solves word problems involving division of whole numbers, leading to answers in the form of fractions or mixed numbers.	Creates his or her own model to demonstrate division of fractions.
Detailed	5.NF.B [4 to 5]	Shows the product of a fraction by a whole	Shows the product of two fractions by using	Shows the product of two fractions using an	Creates a real-world context and models

		number by repeated addition, using visual fraction models. Interprets multiplication scaling by comparing the size of a product to the size of one factor on the basis of the size of the second factor, without performing the indicated multiplication (where both factors are whole numbers).	an area model. Interprets multiplication scaling by comparing the size of a product to the size of one factor on the basis of the size of the second factor, without performing the indicated multiplication (where one factor is a fraction less than one).	area model and creates a story context for the product. Finds the area of a rectangle with fractional side lengths by tiling it with squares with unit fraction side lengths, and shows that the area is the same as would be found by multiplying the side lengths. Multiplies fractional side lengths to find areas of rectangles, and represents fraction products as rectangular areas. Interprets multiplication scaling by comparing the size of a product to the size of one factor on the basis of the size of the second factor, without performing the indicated multiplication.	representing multiplication of fractions. Demonstrates reasoning about fractions in both an additive and multiplicative sense with different wholes, and displays the quantities with visual models. Interprets multiplication scaling by comparing the size of a product to the size of one factor on the basis of the size of the second factor by performing the indicated multiplication with 2 fractions.
Detailed	5.NF.B [6 to 7]	Solves real-world problems involving multiplication of fractions (limited to fractions with single-digit numerators or denominators) or division of whole numbers by unit fractions by using visual	Solves real-world problems involving multiplication of fractions or division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions (limited to single digit whole	Solves real-world problems involving multiplication of fractions and mixed numbers or division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, using visual	Uses several mixed numbers, often with multi-digit numerators or denominators, to solve real-world problems involving multiplication of fraction or mixed numbers. Creates real-world problems involving division of unit

		fraction models or equations to represent the problem.	numbers and denominators)by using visual fraction models or equations to represent the problem.	fraction models and equations to represent the problem.	fractions by non-zero whole numbers and division of whole numbers by unit fractions, using visual fraction models and equations to represent the problem.

Measurement and Data					
Detailed	5.MD.A [1]	Converts among different-sized standard measurement units within a given measurement system.	Converts among different-sized standard measurement units within a given measurement system; uses these conversions to solve single-step problems, using manipulatives or visual models.	Converts among different-sized standard measurement units within a given measurement system; uses these conversions in solving multi-step, real-world problems.	Creates real-world multi-step problems. Chooses the appropriate measurement unit based on the given context.
Detailed	5.MD.B [2]	Plots data on a given line plot with a data set of measurements in fractions of a unit (1/2, 1/4, 1/8), where the given data set is limited to a common denominator. Solves addition and subtraction comparison problems using the data.	Makes a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, or 1/8), where the given data set is limited to a common denominator. Solves problems using all four operations.	Makes a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Uses operations on fractions to solve problems involving information presented in line plots (division is limited to a whole number divided by a fraction or a fraction divided by a whole number).	Makes a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solves multi-step word problems using the four operations and interprets the solution to the data.
Detailed	5.MD.C [3 to 5]	Uses unit cubes to find the volume of rectangular prisms with whole number edges (limited to single digit dimensions). Solves volume problems of a right rectangular prism	Uses unit cubes (number of unit cubes, edge length, height) to find the volume of rectangular prisms. Uses the information that the number of unit cubes is related to the	Uses unit cubes (number of unit cubes, edge length, height) to find the volume of rectangular prisms. Represents the volume of a solid figure as n cubic units. Solves real-	Compares the volumes of different prisms by using unit cubes. Creates real-world mathematical problems that would be solved by finding volume.

		by using unit cubes.	edge length; uses visual models. Solves volume problems by relating the number of unit cubes in a prism to the multiplication of the edge lengths.	world and mathematical problems by applying the formulas for volume. Finds the volume of two non-overlapping right rectangular prisms by adding the volumes of the two non-overlapping parts.	

Geometry					
Detailed	5.G.A [1 to 2]	Identifies the key components of the coordinate plane (x-axis, x-coordinate, y-axis, y-coordinate and origin). Locates given points in the first quadrant of the coordinate plane.	Interprets coordinate values of points in the first quadrant (e.g., reading line graphs), in context.	Represents real-world and mathematical problems by locating and graphing points in the first quadrant of the coordinate plane.	Using real-world data, creates a representation and draws conclusions based on the data presented.
Detailed	5.G.B [3 to 4]	Identifies two-dimensional figures based on properties limited to sides and angles.	Classifies some two-dimensional figures into categories based on their properties (sides and angles).	Understands that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category and classifies two-dimensional figures in the hierarchy based on these properties.	Draws or constructs specific two-dimensional figures according to the definitions provided, attributes described, or categories given.